BRUHAT BANGALORE MAHANAGARA PALIKE

Name of Work: Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05

DETAILED ESTIMATE

Estimated Cost
Rs. 200.00 Lakh

Office of the
Executive Engineer
BYATARAYANAPURA DIVISION
Bruhat Bangalore Mahanagara Palike
Bangalore

Bruhat Bangalore Mahanagara Palike
Executive Engineer Byatarayanapura Division

Name of Work: Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindu layout and Surrounding areas in Ward No.05

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Removing & Refixing stone slabs of drains and pointing in C.M (1:3) (Page No 27., I.No.5.33 of KPWD S.R 2018-19).								
	Basic rate	105.00							
	6% AW	6.30							
	Sub Total	111.30							
	Bottom Drain Slabs								
	Shivshankar Layout								
	Cross Road -1	2	175.00	1.50		525.00			
	Cross Road -2	2	172.00	1.50		516.00			
	Cross Road -3	2	172.00	1.50		516.00			
	Cross Road -4	2	170.00	1.50		510.00			
	Varaha Layout								
	Cross Road -1	2	199.00	1.50		597.00			
	Cross Road -2	2	117.00	1.50		351.00			
	Cross Road -3	2	118.00	1.50		354.00			
	Cross Road -4	2	120.00	1.50		360.00			
	Cross Road -5	2	82.00	1.50		246.00			
	Bindu Layout								
	Cross Road -1	2	100.00	1.50		300.00			
	Cross Road -2	2	94.00	1.50		282.00			
	Cross Road -3	2	67.00	1.50		201.00			
						4758.00			
	Deduct 25% damaged/missing					1189.50			
						3568.50			
	consider 30%					**1070.55**	**Sqm**	**111.30**	**119152.22**
	KSRRB 300 - Excavation for road, drains and similar works KSRRB 300-1. **Earthwork excavation by manual means** in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications. MORTH / Chapter 3 (P.No-143, I.No-19.1)								
	Basic rate	130.00							
	Area weightage 6%	7.80							
	Sub total	137.80							
	Loading and unloading with Lead 5 km	**69.80**							
	Total	**207.60**							
	Desilting								
	Shivshankar Layout								
	Cross Road -1	2	175.00	0.40	0.30	42.00			

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Cross Road -2	2	172.00	0.40	0.30	41.28			
Cross Road -3	2	172.00	0.40	0.30	41.28			
Cross Road -4	2	170.00	0.40	0.30	40.80			
Varaha Layout								
Cross Road -1	2	199.00	0.30	0.30	35.82			
Cross Road -2	2	117.00	0.30	0.30	21.06			
Cross Road -3	2	118.00	0.30	0.30	21.24			
Cross Road -4	2	120.00	0.30	0.30	21.60			
Cross Road -5	2	82.00	0.30	0.30	14.76			
Bindu Layout								
Cross Road -1	2	100.00	0.30	0.30	18.00			
Cross Road -2	2	94.00	0.30	0.30	16.92			
Cross Road -3	2	67.00	0.30	0.30	12.06			
Culvert	3	6.60	1.80	0.90	32.08			
					358.90	**Cum**	**207.60**	**74,506.81**
Providing granite slabs of selected quality roughly dressed having a size of 7.5 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete. I.No.5.31.1, Page no 27								
Basic rate	700.00							
Area weightage 6%	42.00							
Total	**742.00**							
from item no.01					1189.50			
					1189.50	**Sqm**	**742.00**	**882609.00**
KSRRB M2100-10. Providing and laying **Plain cement concrete of mix 1:3:6** with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @ 0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. (P.No-222,I No-27.18)								
Basic rate	5115.00							
6% AW	306.90							
Sub Total	**5421.90**							
Culvert	3	6.60	1.80	0.15	5.35			
					5.35	**Cum**	**5421.90**	**28,985.48**
KSRB 5.2-3 : **Providing and constructing granite / trap / basalt size stone masonry** in foundation with cement mortar, stone hammered dressed in courses not less than 20 cms high, bond stones at 2m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13, cement mortar 1:6 KBS 5.1.13 (P.No-25,I No-5.6)								
Basic rate	4596.00							
6% AW	275.76							
Sub Total	**4871.76**							
Culvert Wall	6	6.60	0.45	0.80	14.26			
					14.26	**Cum**	**4871.76**	**69,451.81**

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
KSRB 4-1.6 ; Providing and laying in position **plain cement concrete of Mix 1:2:4** with OPC @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregtes @ 0.53cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No-13,I No-4.6)								
Basic rate	5422.00							
6% AW	325.32							
Sub Total	5747.32							
For Flagging Course P.C.C								
Shivshankar Layout								
Cross Road -1	4	175.00	0.20	0.15	21.00			
Cross Road -2	4	172.00	0.20	0.15	20.64			
Cross Road -3	4	172.00	0.20	0.15	20.64			
Cross Road -4	4	170.00	0.20	0.15	20.40			
Varaha Layout								
Cross Road -1	4	199.00	0.20	0.15	23.88			
Cross Road -2	4	117.00	0.20	0.15	14.04			
Cross Road -3	4	118.00	0.20	0.15	14.16			
Cross Road -4	4	120.00	0.20	0.15	14.40			
Cross Road -5	4	82.00	0.20	0.15	9.84			
Bindu Layout								
Cross Road -1	4	100.00	0.20	0.15	12.00			
Cross Road -2	4	94.00	0.20	0.15	11.28			
Cross Road -3	4	67.00	0.20	0.15	8.04			
For Flagging Course Coping								
Shivshankar Layout								
Cross Road -1	4	175.00	0.15	0.10	10.50			
Cross Road -2	4	172.00	0.15	0.10	10.32			
Cross Road -3	4	172.00	0.15	0.10	10.32			
Cross Road -4	4	170.00	0.15	0.10	10.20			
Varaha Layout								
Cross Road -1	4	199.00	0.15	0.10	11.94			
Cross Road -2	4	117.00	0.15	0.10	7.02			
Cross Road -3	4	118.00	0.15	0.10	7.08			
Cross Road -4	4	120.00	0.15	0.10	7.20			
Cross Road -5	4	82.00	0.15	0.10	4.92			
Bindu Layout								
Cross Road -1	4	100.00	0.15	0.10	6.00			
Cross Road -2	4	94.00	0.15	0.10	5.64			
Cross Road -3	4	67.00	0.15	0.10	4.02			
Culvert Coping	6	6.60	0.45	0.10	1.78			
Culvert Vent	3	6.60	0.60	0.15	1.78			
					289.04	**Cum**	**5747.32**	**1661228.36**

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
KSRB 5-14 : Providing and constructing load bearing wall with **solid concrete blocks of size 400x150x200 mm** having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 4.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications. KBS No.5.4 I.No.5.26.2, Page no 27								
Basic rate	924.00							
Area weightage 6%	55.44							
Total	**979.44**							
Flagging Course								
Shivshankar Layout								
Cross Road -1	4	175.00		0.40	280.00			
Cross Road -2	4	172.00		0.20	137.60			
Cross Road -3	4	172.00		0.40	275.20			
Cross Road -4	4	170.00		0.40	272.00			
Varaha Layout								
Cross Road -1	4	199.00		0.40	318.40			
Cross Road -2	4	117.00		0.40	187.20			
Cross Road -3	4	118.00		0.40	188.80			
Cross Road -4	4	120.00		0.40	192.00			
Cross Road -5	4	82.00		0.40	131.20			
Bindu Layout								
Cross Road -1	4	100.00		0.40	160.00			
Cross Road -2	4	94.00		0.40	150.40			
Cross Road -3	4	67.00		0.40	107.20			
					2400.00	**Sqm**	**979.44**	**2350656.00**
Providing and fixing **RCC Precast cover slab of 100mm thick** for drain in cement concrete M25 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
Data rate	2337.00							
For Drain								
Flagging Course								
Shivshankar Layout								
Cross Road -1	2	175.00	0.90		315.00			
Cross Road -2	2	172.00	0.90		309.60			
Cross Road -3	2	172.00	0.90		309.60			
Cross Road -4	2	170.00	0.90		306.00			
Varaha Layout								
Cross Road -1	2	199.00	0.90		358.20			
Cross Road -2	2	117.00	0.90		210.60			
Cross Road -3	2	118.00	0.90		212.40			
Cross Road -4	2	120.00	0.90		216.00			
Cross Road -5	2	82.00	0.90		147.60			
Bindu Layout								
Cross Road -1	2	100.00	0.90		180.00			

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Cross Road -2	2	94.00	0.90		169.20			
Cross Road -3	2	67.00	0.90		120.60			
					2854.80	**Sqm**	**2337.00**	**6671667.60**
Providing and Fixing **pre cast covering Slab 250mm thick** made out of M25 and jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge. (Data Rate)								
Data rate	5418.00							
Culvert Vent	3	6.60	1.50		29.70			
					29.70	**Sqm**	**5418.00**	**160914.60**
KSRRB M300-14. **Excavation for roadwork** in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location to a lead of 1km and complete as per specifications.(I No-19.14,P No-143)								
Basic rate	41.00							
Area Weightage 6%	2.46							
Sub total	43.46							
with Lead 5 km	**12.80**							
Total	**56.26**							
Bindu Layout								
Cross Road -1	1	100.00	4.70	0.250	117.50			
Cross Road -2	1	94.00	5.60	0.250	131.60			
Cross Road -3	1	67.00	5.20	0.250	87.10			
Cross Road A	1	100.00	5.00	0.250	125.00			
Shivshankar Layout								
Bad Reaches								
Cross Road -1	1	175.00	2.00	0.150	52.50			
Cross Road -2	1	172.00	2.00	0.150	51.60			
Cross Road -3	1	172.00	2.00	0.150	51.60			
Varaha Layout								
Cross Road -5	1	82.00	2.00	0.150	24.60			
					641.50	**Cum**	**56.26**	**36,090.79**
Construction of **granular sub-base Grading-V** as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications Clause 401 of MORTH V Revision.(I No-20.5,P No-153)								
Basic rate	1882.00							
Area Weightage 6%	112.92							
Total	**1994.92**							
Shivshankar Layout								
Bad Reaches								
Cross Road -1	1	175.00	2.00	0.150	52.50			
Cross Road -2	1	172.00	2.00	0.150	51.60			

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Cross Road -3	1	172.00	2.00	0.150	51.60			
Varaha Layout								
Cross Road -5	1	82.00	2.00	0.150	24.60			
Bindu Layout								
Cross Road -1	1	100.00	4.70	0.150	70.50			
Cross Road -2	1	94.00	5.60	0.150	78.96			
Cross Road -3	1	67.00	5.20	0.150	52.26			
Cross Road A	1	100.00	5.00	0.150	75.00			
					457.02	**Cum**	**1994.92**	**911718.34**
KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to **wet mix macadam** specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications(P.No-155,I No-20.18)								
Basic rate	1888.00							
Area Weightage 6%	113.28							
Total	**2001.28**							
Shivshankar Layout								
Bad Reaches								
Cross Road -1	1	175.00	2.00	0.225	78.75			
Cross Road -2	1	172.00	2.00	0.225	77.40			
Cross Road -3	1	172.00	2.00	0.225	77.40			
Varaha Layout								
Cross Road -5	1	82.00	2.00	0.225	36.90			
Bindu Layout								
Cross Road -1	1	100.00	4.70	0.225	105.75			
Cross Road -2	1	94.00	5.60	0.225	118.44			
Cross Road -3	1	67.00	5.20	0.225	78.39			
Cross Road A	1	100.00	5.00	0.225	112.50			
					685.53	**Cum**	**2001.28**	**1371937.48**
KSRRB M500-6. Providing and **applying primer coat** with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications Clause 502 of MORTH V revision(P.No-158,I No-21.6)								
Basic rate	27.00							
Area Weightage 6%	1.62							
Total	**28.62**							
Shivshankar Layout								
Bad Reaches								
Cross Road -1	1	175.00	2.00		350.00			
Cross Road -2	1	172.00	2.00		344.00			
Cross Road -3	1	172.00	2.00		344.00			
Varaha Layout								
Cross Road -5	1	82.00	2.00		164.00			
Bindu Layout								

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Cross Road -1	1	100.00	4.70		470.00			
Cross Road -2	1	94.00	5.60		526.40			
Cross Road -3	1	67.00	5.20		348.40			
Cross Road A	1	100.00	5.00		500.00			
					3046.80	**Sqm**	**28.62**	**87,199.42**
KSRRB 500-2. **Cleaning the existing black topped surface** with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labour, HOM complete as per specifications. (P.No-158,I No-21.12,KPWD SR 2018-19)								
Basic rate	5.00							
Area Weightage 6%	0.30							
Total	**5.30**							
Shivshankar Layout								
Cross Road -1	1	175.00	6.00		1050.00			
Cross Road -2	1	172.00	6.30		1083.60			
Cross Road -3	1	172.00	6.10		1049.20			
Cross Road -4	1	170.00	5.90		1003.00			
Varaha Layout								
Cross Road -5	1	82.00	5.10		418.20			
Bindu Layout								
Cross Road -1	1	100.00	4.70		470.00			
Cross Road -2	1	94.00	5.60		526.40			
Cross Road -3	1	67.00	5.20		348.40			
Cross Road A	1	100.00	5.00		500.00			
Deduct primme coat area					-3046.80			
					3402.00	**Sqm**	**5.30**	**18,030.60**
KSRRB 500-7. Providing and applying **tack coat** using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM complete as per specifications (P.No-161,I No-21.7)								
Basic rate	12.00							
Area Weightage 6%	0.72							
Total	**12.72**							
Shivshankar Layout								
Cross Road -1	1	175.00	6.00		1050.00			
Cross Road -2	1	172.00	6.30		1083.60			
Cross Road -3	1	172.00	6.10		1049.20			
Cross Road -4	1	170.00	5.90		1003.00			
Varaha Layout								
Cross Road -5	1	82.00	5.10		418.20			
Bindu Layout								
Cross Road -1	1	100.00	4.70		470.00			
Cross Road -2	1	94.00	5.60		526.40			
Cross Road -3	1	67.00	5.20		348.40			
Cross Road A	1	100.00	5.00		500.00			
					6448.80	**Sqm**	**12.72**	**82,028.74**

	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
5	KSRRB M500-17. Providing and laying **dense graded bituminous macadam** using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications Clause 505 of MORTH V revisionusing 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (P.No-160,I No-21.17.6)								
	Basic rate	6224.00							
	Area Weightage 6%	373.44							
	Total	**6597.44**							
	Shivshankar Layout								
	Bad Reaches								
	Cross Road -1	1	175.00	2.00	0.05	17.50			
	Cross Road -2	1	172.00	2.00	0.05	17.20			
	Cross Road -3	1	172.00	2.00	0.05	17.20			
	Varaha Layout								
	Cross Road -5	1	82.00	2.00	0.05	8.20			
	Bindu Layout								
	Cross Road -1	1	100.00	4.70	0.05	23.50			
	Cross Road -2	1	94.00	5.60	0.05	26.32			
	Cross Road -3	1	67.00	5.20	0.05	17.42			
	Cross Road A	1	100.00	5.00	0.05	25.00			
						152.34	**Sqm**	**6597.44**	**1005054.01**
	Providing and laying **bituminous concrete 40mm thick** with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4 % of modified bituminus binder consisting of 4.97% of VG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic)(P.No-171,I No-21.78.12)								
	Basic rate	7315.00							
	Area Weightage 6%	438.90							
	Total	**7753.90**							
	Shivshankar Layout								
	Cross Road -1	1	175.00	6.00	0.04	42.00			
	Cross Road -2	1	172.00	6.30	0.04	43.34			
	Cross Road -3	1	172.00	6.10	0.04	41.97			
	Cross Road -4	1	170.00	5.90	0.04	40.12			
	Varaha Layout								
	Cross Road -5	1	82.00	5.10	0.04	16.73			
	Bindu Layout								
	Cross Road -1	1	100.00	4.70	0.04	18.80			
	Cross Road -2	1	94.00	5.60	0.04	21.06			
	Cross Road -3	1	67.00	5.20	0.04	13.94			
	Cross Road A	1	100.00	5.00	0.04	20.00			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
						257.95	Cum	7753.90	2000134.01
8	KSRRB M800-13.**Road Marking** with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803(P.No-182,I No-24.15)								
	Basic rate	429.00							
	Area Weightage 6%	25.74							
	Total	**454.74**							
	Shivshankar Layout								
	Cross Road -1	2	175.00	0.10		35.00			
	Cross Road -2	2	172.00	0.10		34.40			
	Cross Road -3	2	172.00	0.10		34.40			
	Cross Road -4	2	170.00	0.10		34.00			
	Varaha Layout								
	Cross Road -5	2	82.00	0.10		16.40			
	Bindu Layout								
	Cross Road -1	2	100.00	0.10		20.00			
	Cross Road -2	2	94.00	0.10		18.80			
	Cross Road -3	2	67.00	0.10		13.40			
	Cross Road A	2	100.00	0.10		20.00			
						226.40	**Sqm**	**454.74**	**102953.14**
								Total Construction Cost	**17634318.39**
								12% GST	**2116118.21**
								DPR & PMC Charges	**249000.00**
								Sub Total	**19999436.60**
								Miscellaneous & Rounding off	**563.40**
								GRAND TOTAL	**20000000.00**

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019, Data Rates and issue rates Dated 03-01-2020

Assistant Engineer,
Ward 05

Asst. Exec. Engineer,
Dasarahalli Sub Division

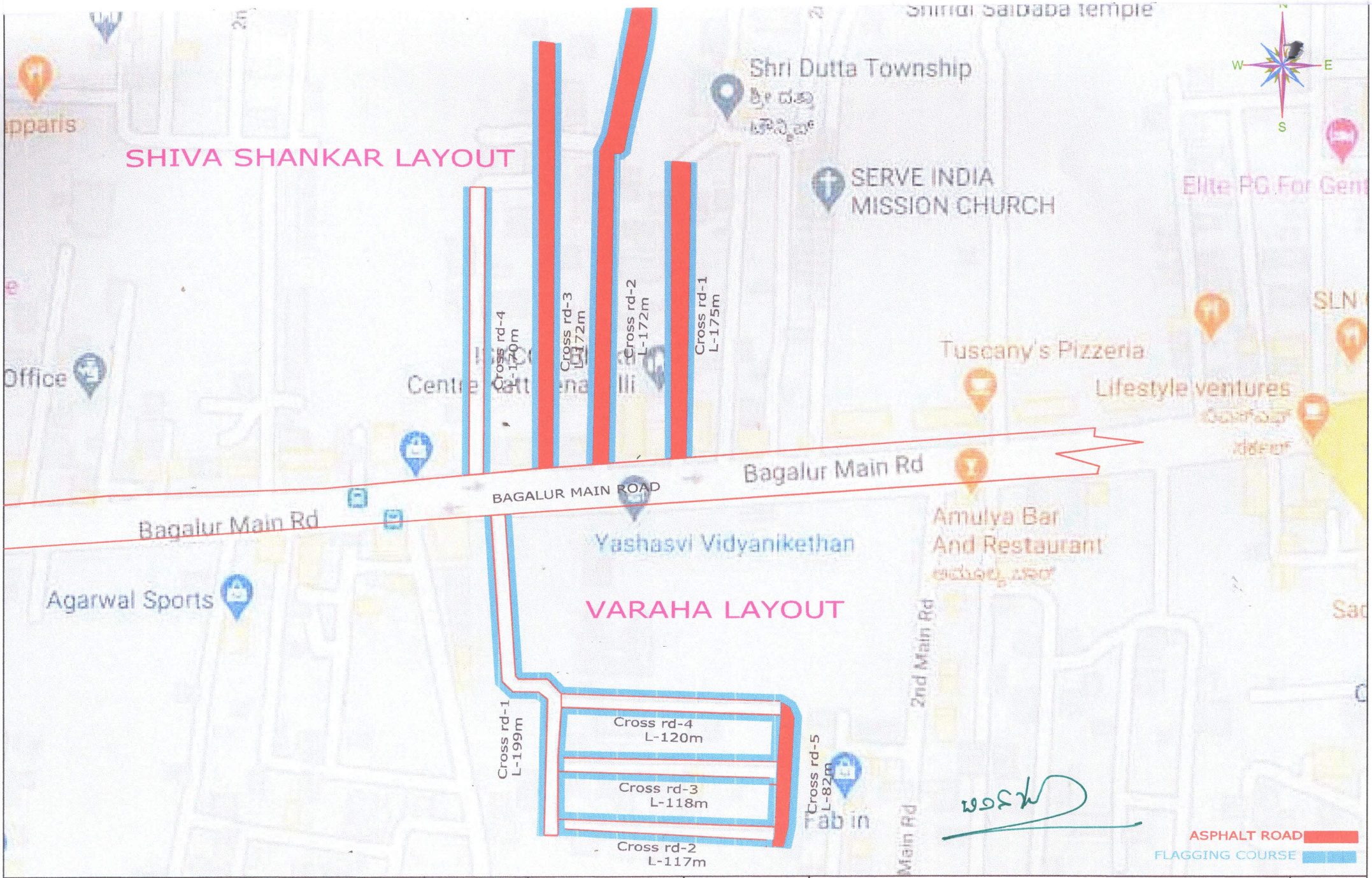
Executive Engineer,
Byatarayanapura Division

CLIENT
BRUHAT BANGALORE
MAHANAGARA PALIKE

CONSULTANT:-
Silicon Consulting Engineers
#S1317, 4th CROSS BEL
2nd STAGE BHARATH NAGAR
BANGALORE 560 091.
E-mail siliconcivilengineers@gmail.com

Improvements to Roads and Drains at Shivashankar layout,

Varaha layout, Bindhu layout and Surrounding areas in Ward no.05



CLIENT BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- **Silicon Consulting Engineers** #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com				Improvements to Roads and Drains at Shivashankar layout, Varaha layout, Bindhu layout and Surrounding areas in Ward no.05	

3

BRUHAT BANGALORE MAHANAGARA PALIKE

Name of Work: Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05

DETAILED ESTIMATE

Estimated Cost
Rs. 200.00 Lakh

Office of the
Executive Engineer
BYATARAYANAPURA DIVISION
Bruhat Bangalore Mahanagara Palike
Bangalore

Bruhat Bangalore Mahanagara Palike
Executive Engineer Byatarayanapura Division

Name of Work: Improvements to Roads and Drains at Main roads of Kattigenahalli and Surrounding areas in Ward No.05

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Removing & Refixing stone slabs of drains and pointing in C.M (1:3) (Page No 27., I.No.5.33 of KPWD S.R 2018-19).								
Basic rate	105.00							
6% AW	6.30							
Sub Total	111.30							
Bottom Drain Slabs								
Kattigenahalli								
Main Rd	2	425.00	1.50		1275.00			
					1275.00			
Deduct 30% damaged/missing					382.50			
					892.50			
Consider 30%					**267.75**	**Sqm**	**111.30**	**29,800.58**
KSRRB 300 - Excavation for road, drains and similar works KSRRB 300-1. **Earthwork excavation by manual means** in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications. MORTH / Chapter 3 (P.No-143, I.No-19.1)								
Basic rate	130.00							
Area weightage 6%	7.80							
Sub total	137.80							
Loading and unloading with Lead 5 km	**69.80**							
Total	**207.60**							
Desilting								
Kattigenahalli								
Main Rd	2	425.00	0.50	0.40	170.00			
					170.00	**Cum**	**207.60**	**35,292.00**
Providing granite slabs of selected quality roughly dressed having a size of 7.5 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete. I.No.5.31.1, Page no 27								
Basic rate	700.00							
Area weightage 6%	42.00							
Total	**742.00**							
from item no.01					382.50			
					382.50	**Sqm**	**742.00**	**283815.00**

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
SRRB M300-14. **Excavation for roadwork** in soil with hydraulic excavator of 0.9 cum bucket capacity ncluding cutting and loading in tippers, trimming bottom and side slopes, in accordance with equirements of lines, grades and cross sections, and transporting to the embankment location to a ead of 1km and complete as per specifications.(I No-19.14,P No-143)								
Basic rate	41.00							
Area Weightage 6%	2.46							
Sub total	43.46							
with Lead 5 km	**12.80**							
Total	**56.26**							
attigenahalli								
Main Rd	1	700.00	6.20	0.300	1302.00			
	1	500.00	3.00	0.300	450.00			
nd main	1	760.00	6.50	0.300	1482.00			
					3234.00	**Cum**	**56.26**	**181944.84**
onstruction of **granular sub-base Grading-V** as Sub-base and drainage layer by providing coarse raded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at MC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on repared surface and compacting with vibratory power roller to achieve the 98 % proctor density, omplete as per specifications Clause 401 of MORTH V Revision.(I No-20.5,P No-153)								
Basic rate	1882.00							
Area Weightage 6%	112.92							
Total	**1994.92**							
attigenahalli								
Main Rd	1	700.00	6.20	0.150	651.00			
	1	500.00	3.00	0.150	225.00			
nd main	1	760.00	6.50	0.150	741.00			
					1617.00	**Cum**	**1994.92**	**3225785.64**
SRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap basalt to **wet mix macadam** specifications including pre mixing the material with water at OMC in echanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in ub-base/base course on well prepared surface and compacting with vibratory roller to achieve the esired density complete as per specifications(P.No-155,I No-20.18)								
Basic rate	1888.00							
Area Weightage 6%	113.28							
Total	**2001.28**							
attigenahalli								
Main Rd	1	700.00	6.20	0.225	976.50			
	1	500.00	3.00	0.225	337.50			
nd main	1	760.00	6.50	0.225	1111.50			
					2425.50	**Cum**	**2001.28**	**4854104.64**

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
SRRB M500-6. Providing and **applying primer coat** with S.S. bitumen emulsion on prepared surface of ranular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 g / sqm using mechanical means complete as per specifications Clause 502 of MORTH V revision(P.No-58,I No-21.6)								
Basic rate	27.00							
Area Weightage 6%	1.62							
Total	**28.62**							
attigenahalli								
Main Rd	1	700.00	6.20		4340.00			
	1	500.00	6.50		3250.00			
nd main	1	760.00	6.50		4940.00			
					12530.00	**Sqm**	**28.62**	**358608.60**
SRRB 500-7. Providing and applying **tack coat** using 80/100 grade bitumen(VG10) on the prepared lack topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding leaning of road surface) including cost of all materials, labour, HOM complete as per specifications P.No-161,I No-21.7)								
Basic rate	12.00							
Area Weightage 6%	0.72							
Total	**12.72**							
attigenahalli								
Main Rd	1	700.00	6.20		4340.00			
	1	500.00	6.50		3250.00			
nd main	1	760.00	6.50		4940.00			
					12530.00	**Sqm**	**12.72**	**159381.60**
SRRB M500-17. Providing and laying **dense graded bituminous macadam** using crushed aggregates of pecified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work te, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and andem rollers to achieve the desired compaction in all respects complete as per specifications Clause 05 of MORTH V revisionusing 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 m) with 4.5 % VG-30 Bitumen (P.No-160,I No-21.17.6)								
Basic rate	6224.00							
Area Weightage 6%	373.44							
Total	**6597.44**							
attigenahalli								
Main Rd	1	700.00	6.20	0.05	217.00			
	1	500.00	6.50	0.05	162.50			
nd main	1	760.00	6.50	0.05	247.00			
					626.50	**Sqm**	**6597.44**	**4133296.16**

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Providing and laying **bituminous concrete 40mm thick** with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4 % of modified bituminus binder consisting of 4.97% of VG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic)(P.No-L71,I No-21.78.12)								
Basic rate	7315.00							
Area Weightage 6%	438.90							
Total	**7753.90**							
Kattigenahalli								
Main Rd	1	700.00	6.20	0.04	173.60			
	1	500.00	6.50	0.04	130.00			
2nd main	1	760.00	6.50	0.04	197.60			
					501.20	**Cum**	**7753.90**	**3886254.68**
SRRB M800-13.**Road Marking** with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803(P.No-182,I No-24.15)								
Basic rate	429.00							
Area Weightage 6%	25.74							
Total	**454.74**							
attigenahalli								
Main Rd	2.5	700.00	0.10		175.00			
	2.5	500.00	0.10		125.00			
nd main	2.5	760.00	0.10		190.00			
					490.00	**Sqm**	**454.74**	**222822.60**
SRRB M800-35. **Supply and Installtion of Moulded Shank Raised Pavement Markers** made of polycarbonate and ABS(Acrylonitrile Butadiene Styrene) moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to Specifications of Category A of MORTH Circular No W/ NH/33023/10-97 – DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 00 mm and 102 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the ase shall be 35 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter ot less than 19 mm and height not less than 30 mm) from the body is to be a minimum value of 500 g. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy esin based adhesive as per manufacturer's recommendation and complete as directed by the ngineer.(P.No-187, I No-24.41)								
Basic rate	337.00							
Area Weightage 6%	20.22							
Total	**357.22**							

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Kattigenahalli								
Main Rd	3	70.00			210.00			
	3	50.00			150.00			
2nd main	3	80.00			240.00			
					600.00	**Nos**	**357.22**	**214332.00**
Supply and fixing of Retro Reflective Single Arrow Road Name Signboard of size 1600mm x 900mm made out of retro reflective sheeting conforming to Type XI standards of ASTM D 4956 - 09 & as per IRC 67-2012 for full back ground of blue colour & white letters and fixed over 4 mm thick Aluminium Composite Material sheet having minimum 0.5 mm thick Aluminium skin on both sides with back side painted grey colour and fixed over back support frame SS angle of 15mm x 20mmx 1.2mm, supported by 38mm OD stainless steel pipe all round in 304 grade and 2 nos of vertical posts of 50 mm OD stainless steel pipe of 202 grade firmly fixed to the ground by means of properly designed foundation of size 450mm x 450mm x 600mm in 1:1.5:3 ratio cement concrete. The background shall be blue in color with letters and border in white, the item includes earthwork excavation, cost of all materials, loading, unloading, lead, lift, transportation etc., complete. as per direction of engineer incharge of work clause 6.9 of IRC 67-2012 for Type XI retro reflective sheeting from the sheeting manufacturer & a certified copy of test reports from an independent test laboratory conforming to clause 6.7 of IRC 67-2012 including outdoor weather exposure report for the retro reflective sheeting offered shall be submitted by the contractor for technical qualification in the tender.(P.No-190, I No-24.59 of PWD BCSR 2018-19)								
Basic rate	13297.00							
Area Weightage 6%	797.82							
Total	**14094.82**							
Kattigenahalli								
Main Rd	1	1.60	0.90		**1.44**			
2nd main	1	1.60	0.90		**1.44**			
					2.88	**Sqm**	**14094.82**	**40,593.08**
							Total Construction Cost	**17626031.42**
							12% GST	**2115123.77**
							DPR & PMC Charges	**258000.00**
							Sub Total	**19999155.19**
							Miscellaneous & Rounding off	**844.81**
							GRAND TOTAL	**20000000.00**

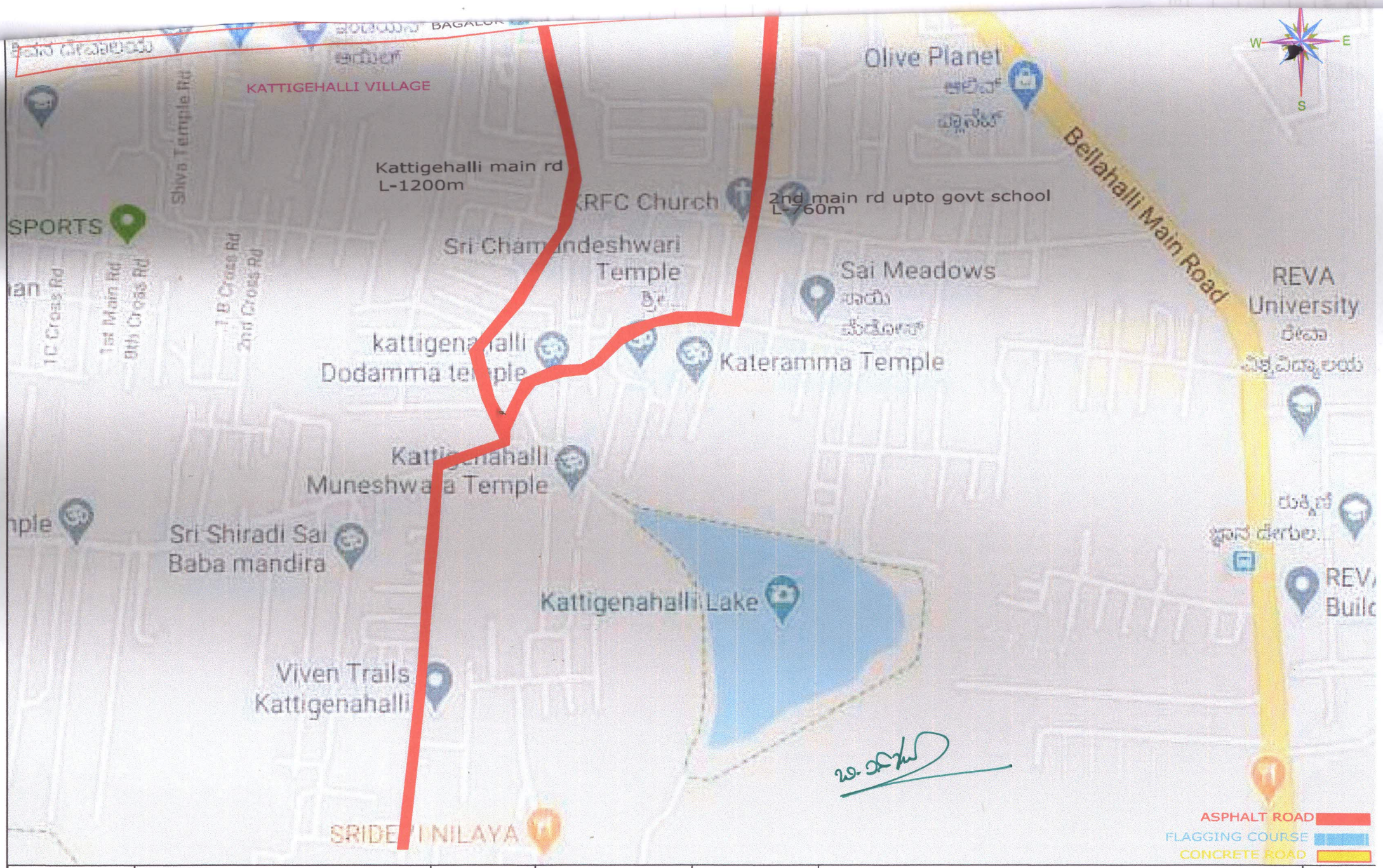
Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019, Data Rates and issue rates Dated 03-01-2020

Assistant Engineer,
Ward 05

Asst. Exec. Engineer,
Dasarahalli Sub Division

Executive Engineer,
Byatarayanapura Division



BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- Silicon Consulting Engineers #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com				Improvements to Roads and Drains at Main roads of Kattigehalli and Surrounding areas in Ward no.05

2

BRUHAT BANGALORE MAHANAGARA PALIKE

Name of Work: Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05

DETAILED ESTIMATES

Estimated Cost
Rs. 200.00 Lakh

Office of the
Executive Engineer
BYATARAYANAPURA DIVISION
Bruhat Bangalore Mahanagara Palike
Bangalore

Bruhat Bangalore Mahanagara Palike
Executive Engineer Byatarayanapura Division

Name of Work: Improvements to Roads and Drains at Sirinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward No.05

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Removing & Refixing stone slabs of drains and pointing in C.M (1:3) (Page No 27., I.No.5.33 of KPWD S.R 2018-19).								
Basic rate	105.00							
6% AW	6.30							
Sub Total	111.30							
Bottom Drain Slabs								
Sirinagara								
Cross Road -1	2	167.00	1.50		501.00			
Cross Road -2	2	187.00	1.50		561.00			
Alpha school Road	2	154.00	1.50		462.00			
Sri Krishna Garden								
Cross Road -1	2	215.00	1.50		645.00			
					2169.00			
Deduct 30% damaged/missing					650.70			
					1518.30			
consider 30%					**455.49**	**Sqm**	**111.30**	**50,696.04**
KSRRB 300 - Excavation for road, drains and similar works KSRRB 300-1. **Earthwork excavation by manual means** in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications. MORTH / Chapter 3 (P.No-143, I.No-19.1)								
Basic rate	130.00							
Area weightage 6%	7.80							
Sub total	137.80							
Loading and unloading with Lead 5 km	**69.80**							
Total	**207.60**							
Desilting								
Sirinagara								
Cross Road -1	2	167.00	0.50	0.45	75.15			
Cross Road -2	2	187.00	0.50	0.45	84.15			
Alpha school Road	2	154.00	0.50	0.45	69.30			
Sri Krishna Garden								
Cross Road -1	2	215.00	0.60	0.45	116.10			
Culvert	7	7.20	1.80	1.00	90.72			
					435.42	**Cum**	**207.60**	**90,393.19**

	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Providing granite slabs of selected quality roughly dressed having a size of 7.5 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete. I.No.5.31.1, Page no 27								
	Basic rate	700.00							
	Area weightage 6%	42.00							
	Total	**742.00**							
	from item no.01					650.70			
						650.70	**Sqm**	**742.00**	**482819.40**
	KSRRB M2100-10. Providing and laying **Plain cement concrete of mix 1:3:6** with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @ 0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. (P.No-222,I No-27.18)								
	Basic rate	5115.00							
	6% AW	306.90							
	Sub Total	**5421.90**							
	Culvert	7	7.20	1.80	0.15	13.61			
						13.61	**Cum**	**5421.90**	**73,781.22**
	KSRB 5.2-3 : **Providing and constructing granite / trap / basalt size stone masonry** in foundation with cement mortar, stone hammered dressed in courses not less than 20 cms high, bond stones at 2m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13, cement mortar 1:6 KBS 5.1.13 (P.No-25,I No-5.6)								
	Basic rate	4596.00							
	6% AW	275.76							
	Sub Total	**4871.76**							
	Agrahara layout								
	Culvert Wall	14	7.20	0.45	0.80	36.29			
						36.29	**Cum**	**4871.76**	**176786.43**
	KSRB 4-1.6 ; Providing and laying in position **plain cement concrete of Mix 1:2:4** with OPC @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregtes @ 0.53cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No-13,I No-4.6)								
	Basic rate	5422.00							
	6% AW	325.32							
	Sub Total	5747.32							
	For Flagging Course P.C.C								
	Sirinagara								
	Cross Road -1	4	167.00	0.20	0.15	20.04			
	Cross Road -2	4	187.00	0.20	0.15	22.44			
	Alpha school Road	4	154.00	0.20	0.15	18.48			
	Sri Krishna Garden								
	Cross Road -1	4	215.00	0.20	0.15	25.80			

	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	For Flagging Course Coping								
	Sirinagara								
	Cross Road -1	4	167.00	0.15	0.10	10.02			
	Cross Road -2	4	187.00	0.15	0.10	11.22			
	Alpha school Road	4	154.00	0.15	0.10	9.24			
	Sri Krishna Garden								
	Cross Road -1	4	215.00	0.15	0.10	12.90			
	Culvert Coping	14	7.20	0.45	0.10	4.54			
	Culvert Vent	7	7.20	0.60	0.15	4.54			
						139.21	**Cum**	**5747.32**	**800095.91**
7	KSRB 5-14 : Providing and constructing load bearing wall with **solid concrete blocks of size 400x150x200 mm** having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 4.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications. KBS No.5.4 I.No.5.26.2, Page no 27								
	Basic rate	924.00							
	Area weightage 6%	55.44							
	Total	**979.44**							
	Flagging Course								
	Sirinagara								
	Cross Road -1	4	167.00		0.40	267.20			
	Cross Road -2	4	187.00		0.40	299.20			
	Alpha school Road	4	154.00		0.40	246.40			
	Sri Krishna Garden								
	Cross Road -1	4	215.00		0.20	172.00			
						984.80	**Sqm**	**979.44**	**964552.51**
3	Providing and fixing **RCC Precast cover slab of 100mm thick** for drain in cement concrete M25 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data rate	2337.00							
	For Drain								
	Flagging Course								
	Sirinagara								
	Cross Road -1	2	167.00	0.90		300.60			
	Cross Road -2	2	187.00	0.90		336.60			
	Alpha school Road	2	154.00	0.90		277.20			
	Sri Krishna Garden								
	Cross Road -1	2	215.00	0.90		387.00			
						1301.40	**Sqm**	**2337.00**	**3041371.80**

	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Providing and Fixing **pre cast covering Slab 250mm thick** made out of M25 and jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge. (Data Rate)								
	Data rate	5418.00							
	Culvert Vent	7	7.20	1.50		75.60			
						75.60	**Sqm**	**5418.00**	**409600.80**
0	KSRRB M300-14. **Excavation for roadwork** in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location to a lead of 1km and complete as per specifications.(I No-19.14,P No-143)								
	Basic rate	41.00							
	Area Weightage 6%	2.46							
	Sub total	43.46							
	with Lead 5 km	**12.80**							
	Total	**56.26**							
	Sirinagara								
	Bad Reaches								
	Cross Road -1	1	167.00	1.80	0.150	45.09			
	Cross Road -2	1	187.00	1.80	0.150	50.49			
	Someshwara layout								
	Cross Road -1	1	140.00	6.00	0.300	252.00			
	Cross Road -2	1	55.00	5.00	0.300	82.50			
	Cross Road -3	1	70.00	5.20	0.300	109.20			
	Alpha school Road	1	154.00	4.80	0.300	221.76			
	Sri Krishna Garden								
	Cross Road -1	1	215.00	5.40	0.300	348.30			
	Cross Road A	1	150.00	5.00	0.300	225.00			
	Cross Road B	1	124.00	5.20	0.300	193.44			
	Cross Road C	1	120.00	4.80	0.300	172.80			
	Cross Road D	1	100.00	5.00	0.300	150.00			
	Cross Road E	1	80.00	5.20	0.300	124.80			
						1975.38	**Cum**	**56.26**	**111134.88**
1	Construction of **granular sub-base Grading-V** as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications Clause 401 of MORTH V Revision.(I No-20.5,P No-153)								
	Basic rate	1882.00							
	Area Weightage 6%	112.92							
	Total	**1994.92**							
	Sirinagara								
	Bad Reaches								

	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Cross Road -1	1	167.00	1.80	0.150	45.09			
	Cross Road -2	1	187.00	1.80	0.150	50.49			
	BSF STS Mn Rd (cut portion)	1	394.00	1.50	0.200	118.20			
	Someshwara layout								
	Cross Road -1	1	140.00	6.00	0.150	126.00			
	Cross Road -2	1	55.00	5.00	0.150	41.25			
	Cross Road -3	1	70.00	5.20	0.150	54.60			
	Alpha school Road	1	154.00	4.80	0.150	110.88			
	Sri Krishna Garden								
	Cross Road -1	1	215.00	5.40	0.150	174.15			
	Cross Road A	1	150.00	5.00	0.150	112.50			
	Cross Road B	1	124.00	5.20	0.150	96.72			
	Cross Road C	1	120.00	4.80	0.150	86.40			
	Cross Road D	1	100.00	5.00	0.150	75.00			
	Cross Road E	1	80.00	5.20	0.150	62.40			
						1153.68	**Cum**	**1994.92**	**2301499.31**
2	KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to **wet mix macadam** specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications(P.No-155,I No-20.18)								
	Basic rate	1888.00							
	Area Weightage 6%	113.28							
	Total	**2001.28**							
	Sirinagara								
	Bad Reaches								
	Cross Road -1	1	167.00	1.80	0.225	67.64			
	Cross Road -2	1	187.00	1.80	0.225	75.74			
	BSF STS Mn Rd (cut portion)	1	394.00	1.50	0.225	132.98			
	Someshwara layout								
	Cross Road -1	1	140.00	6.00	0.225	189.00			
	Cross Road -2	1	55.00	5.00	0.225	61.88			
	Cross Road -3	1	70.00	5.20	0.225	81.90			
	Alpha school Road	1	154.00	4.80	0.225	166.32			
	Sri Krishna Garden								
	Cross Road -1	1	215.00	5.40	0.225	261.23			
	Cross Road A	1	150.00	5.00	0.225	168.75			
	Cross Road B	1	124.00	5.20	0.225	145.08			
	Cross Road C	1	120.00	4.80	0.225	129.60			
	Cross Road D	1	100.00	5.00	0.225	112.50			
	Cross Road E	1	80.00	5.20	0.225	93.60			
						1686.20	**Cum**	**2001.28**	**3374548.33**

	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	KSRRB M500-6. Providing and **applying primer coat** with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications Clause 502 of MORTH V revision(P.No-158,I No-21.6)								
	Basic rate	27.00							
	Area Weightage 6%	1.62							
	Total	**28.62**							
	Sirinagara								
	Bad Reaches								
	Cross Road -1	1	167.00	1.80		300.60			
	Cross Road -2	1	187.00	1.80		336.60			
	BSF STS Mn Rd (cut portion)	1	394.00	1.50		591.00			
	Someshwara layout								
	Cross Road -1	1	140.00	6.00		840.00			
	Cross Road -2	1	55.00	5.00		275.00			
	Cross Road -3	1	70.00	5.20		364.00			
	Alpha school Road	1	154.00	4.80		739.20			
	Sri Krishna Garden								
	Cross Road -1	1	215.00	5.40		1161.00			
	Cross Road A	1	150.00	5.00		750.00			
	Cross Road B	1	124.00	5.20		644.80			
	Cross Road C	1	120.00	4.80		576.00			
	Cross Road D	1	100.00	5.00		500.00			
	Cross Road E	1	80.00	5.20		416.00			
						7494.20	**Sqm**	**28.62**	**214484.00**
14	KSRRB 500-2. **Cleaning the existing black topped surface** with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labour, HOM complete as per specifications. (P.No-158,I No-21.12,KPWD SR 2018-19)								
	Basic rate	5.00							
	Area Weightage 6%	0.30							
	Total	**5.30**							
	Sirinagara								
	Cross Road -1	1	167.00	6.00		1002.00			
	Cross Road -2	1	187.00	6.30		1178.10			
	BSF STS Mn Rd (cut portion)	1	394.00	1.50		591.00			
	Alpha school Road	1	154.00	4.80		739.20			
	Someshwara layout								
	Cross Road -1	1	140.00	6.00		840.00			
	Cross Road -2	1	55.00	5.00		275.00			
	Cross Road -3	1	70.00	5.20		364.00			
	Sri Krishna Garden								
	Cross Road -1	1	215.00	5.40		1161.00			
	Cross Road A	1	150.00	5.00		750.00			
	Cross Road B	1	124.00	5.20		644.80			
	Cross Road C	1	120.00	4.80		576.00			

	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Cross Road D	1	100.00	5.00		500.00			
	Cross Road E	1	80.00	5.20		416.00			
	Deduct primme coat area					-7494.20			
						1542.90	**Sqm**	**5.30**	**8,177.37**
	KSRRB 500-7. Providing and applying **tack coat** using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM complete as per specifications (P.No-161,I No-21.7)								
	Basic rate	12.00							
	Area Weightage 6%	0.72							
	Total	**12.72**							
	Sirinagara								
	Cross Road -1	1	167.00	6.00		1002.00			
	Cross Road -2	1	187.00	6.30		1178.10			
	BSF STS Mn Rd (cut portion)	1	394.00	1.50		591.00			
	Someshwara layout								
	Cross Road -1	1	140.00	6.00		840.00			
	Cross Road -2	1	55.00	5.00		275.00			
	Cross Road -3	1	70.00	5.20		364.00			
	Alpha school Road	1	154.00	4.80		739.20			
	Sri Krishna Garden								
	Cross Road -1	1	215.00	5.40		1161.00			
	Cross Road A	1	150.00	5.00		750.00			
	Cross Road B	1	124.00	5.20		644.80			
	Cross Road C	1	120.00	4.80		576.00			
	Cross Road D	1	100.00	5.00		500.00			
	Cross Road E	1	80.00	5.20		416.00			
						9037.10	**Sqm**	**12.72**	**114951.91**
16	KSRRB M500-17. Providing and laying **dense graded bituminous macadam** using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications Clause 505 of MORTH V revisionusing 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (P.No-160,I No-21.17.6)								
	Basic rate	6224.00							
	Area Weightage 6%	373.44							
	Total	**6597.44**							
	Sirinagara								
	Bad Reaches								
	Cross Road -1	1	167.00	1.80	0.05	15.03			
	Cross Road -2	1	187.00	1.80	0.05	16.83			
	BSF STS Mn Rd (cut portion)	1	394.00	1.50	0.05	29.55			
	Someshwara layout								
	Cross Road -1	1	140.00	6.00	0.05	42.00			

	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Cross Road -2	1	55.00	5.00	0.05	13.75			
	Cross Road -3	1	70.00	5.20	0.05	18.20			
	Alpha school Road	1	154.00	4.80	0.05	36.96			
	Sri Krishna Garden								
	Cross Road -1	1	215.00	5.40	0.05	58.05			
	Cross Road A	1	150.00	5.00	0.05	37.50			
	Cross Road B	1	124.00	5.20	0.05	32.24			
	Cross Road C	1	120.00	4.80	0.05	28.80			
	Cross Road D	1	100.00	5.00	0.05	25.00			
	Cross Road E	1	80.00	5.20	0.05	20.80			
						374.71	**Sqm**	**6597.44**	**2472126.74**
7	Providing and laying **bituminous concrete 40mm thick** with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4 % of modified bituminus binder consisting of 4.97% of VG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic)(P.No-171,I No-21.78.12)								
	Basic rate	7315.00							
	Area Weightage 6%	438.90							
	Total	**7753.90**							
	Sirinagara								
	Cross Road -1	1	167.00	6.00	0.04	40.08			
	Cross Road -2	1	187.00	6.30	0.04	47.12			
	BSF STS Mn Rd (cut portion)	1	394.00	1.50	0.04	23.64			
	Someshwara layout								
	Cross Road -1	1	140.00	6.00	0.04	33.60			
	Cross Road -2	1	55.00	5.00	0.04	11.00			
	Cross Road -3	1	70.00	5.20	0.04	14.56			
	Alpha school Road	1	154.00	4.80	0.04	29.57			
	Sri Krishna Garden								
	Cross Road -1	1	215.00	5.40	0.04	46.44			
	Cross Road A	1	150.00	5.00	0.04	30.00			
	Cross Road B	1	124.00	5.20	0.04	25.79			
	Cross Road C	1	120.00	4.80	0.04	23.04			
	Cross Road D	1	100.00	5.00	0.04	20.00			
	Cross Road E	1	80.00	5.20	0.04	16.64			
						361.48	**Cum**	**7753.90**	**2802910.79**

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
KSRRB M800-13.**Road Marking** with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803(P.No-182,I No-24.15)								
Basic rate	429.00							
Area Weightage 6%	25.74							
Total	**454.74**							
Sirinagara								
Cross Road -1	2	167.00	0.10		33.40			
Cross Road -2	2	187.00	0.10		37.40			
Someshwara layout								
Cross Road -1	2	140.00	0.10		28.00			
Cross Road -2	2	55.00	0.10		11.00			
Cross Road -3	2	70.00	0.10		14.00			
Alpha school Road	2	154.00	0.10		30.80			
Sri Krishna Garden								
Cross Road -1	2	215.00	0.10		43.00			
Cross Road A	2	150.00	0.10		30.00			
Cross Road B	2	124.00	0.10		24.80			
Cross Road C	2	120.00	0.10		24.00			
Cross Road D	2	100.00	0.10		20.00			
Cross Road E	2	80.00	0.10		16.00			
					312.40	**Sqm**	**454.74**	**142060.78**
							Total Construction Cost	**17631991.40**
							12% GST	**2115838.97**
							DPR & PMC Charges	**252000.00**
							Sub Total	**19999830.37**
							Miscellaneous & Rounding off	**169.63**
							GRAND TOTAL	**20000000.00**

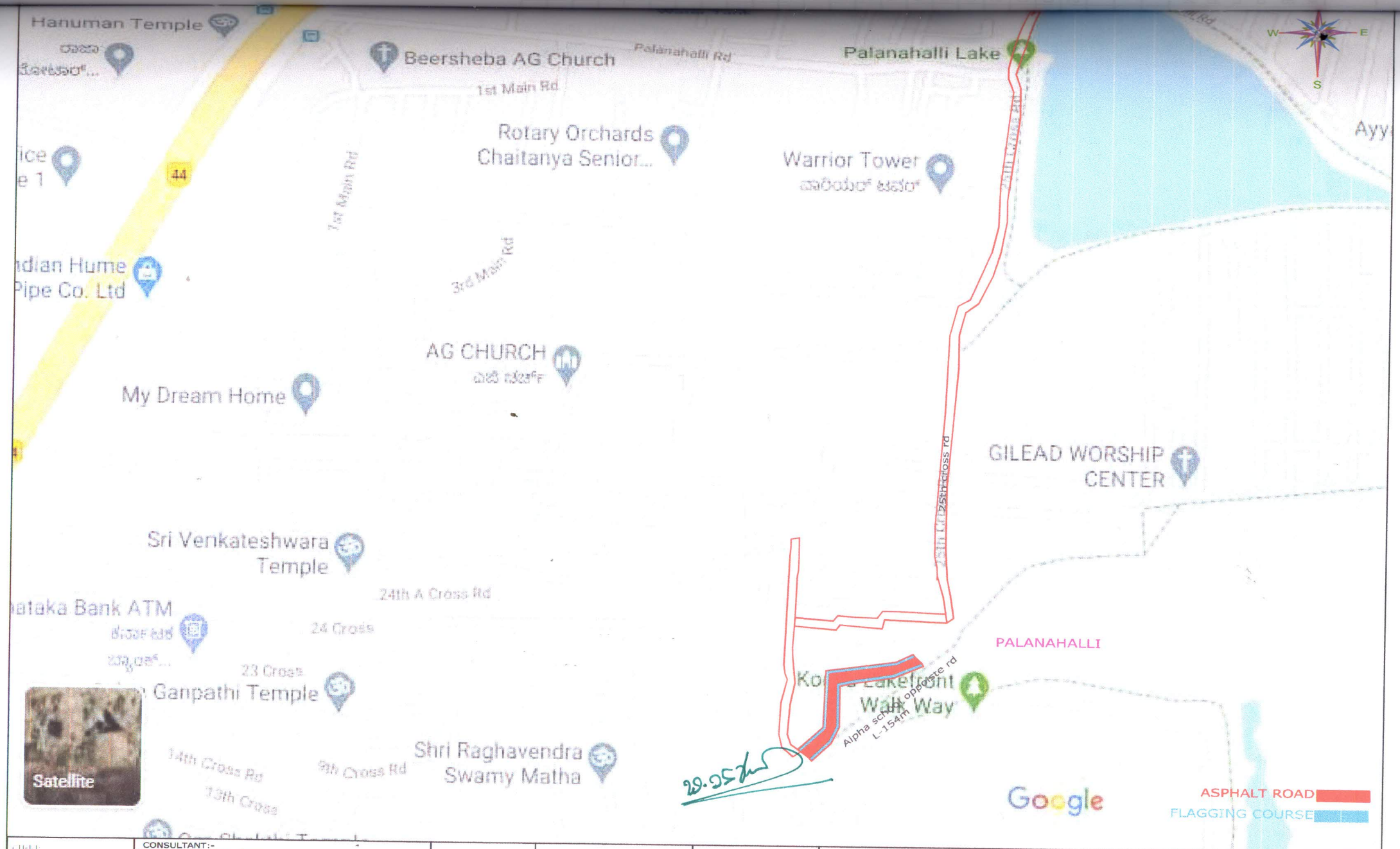
Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019, Data Rates and issue rates Dated 03-01-2020

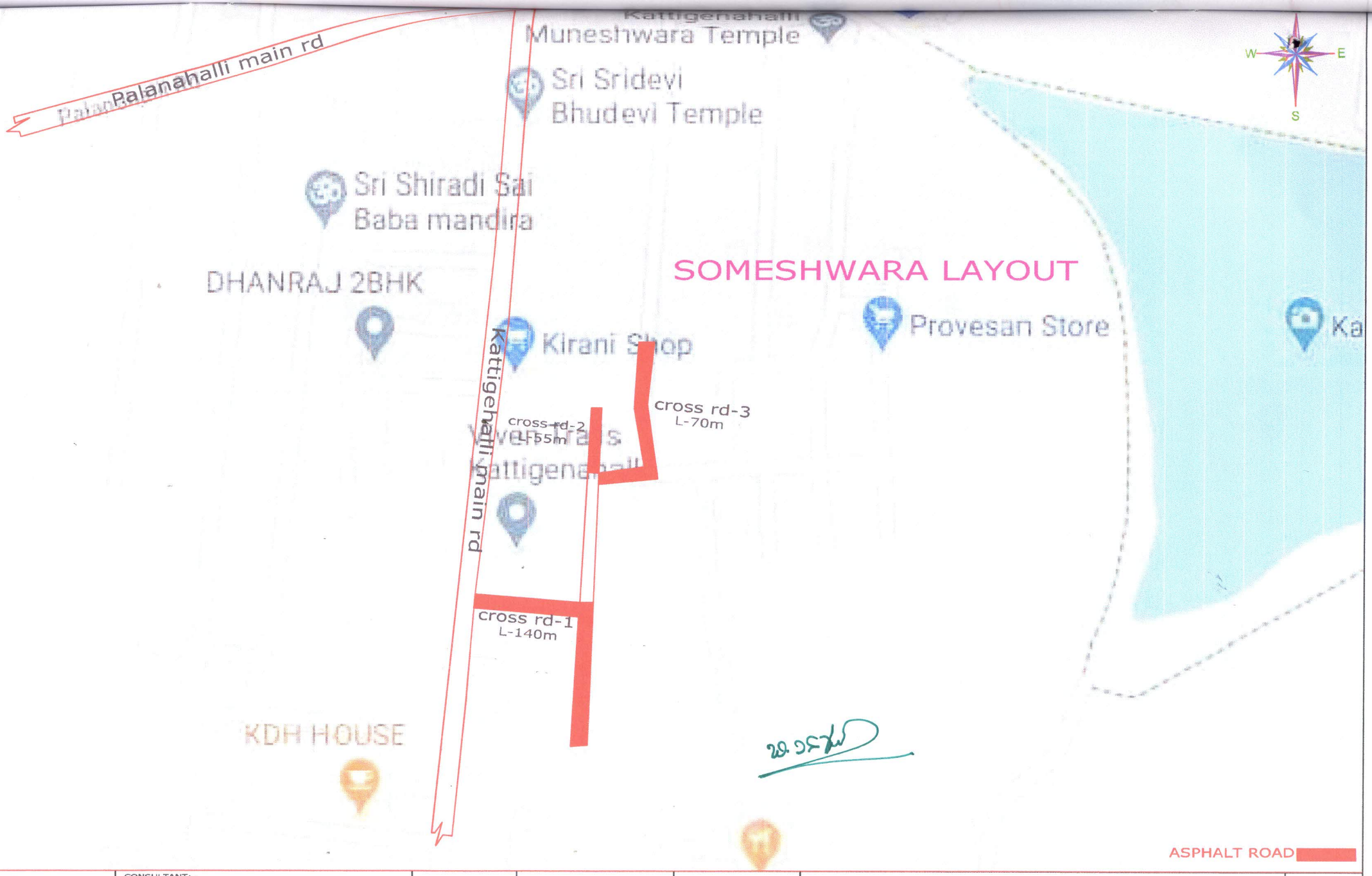
Assistant Engineer,
Ward 05

Asst. Exec. Engineer,
Dasarahalli Sub Division

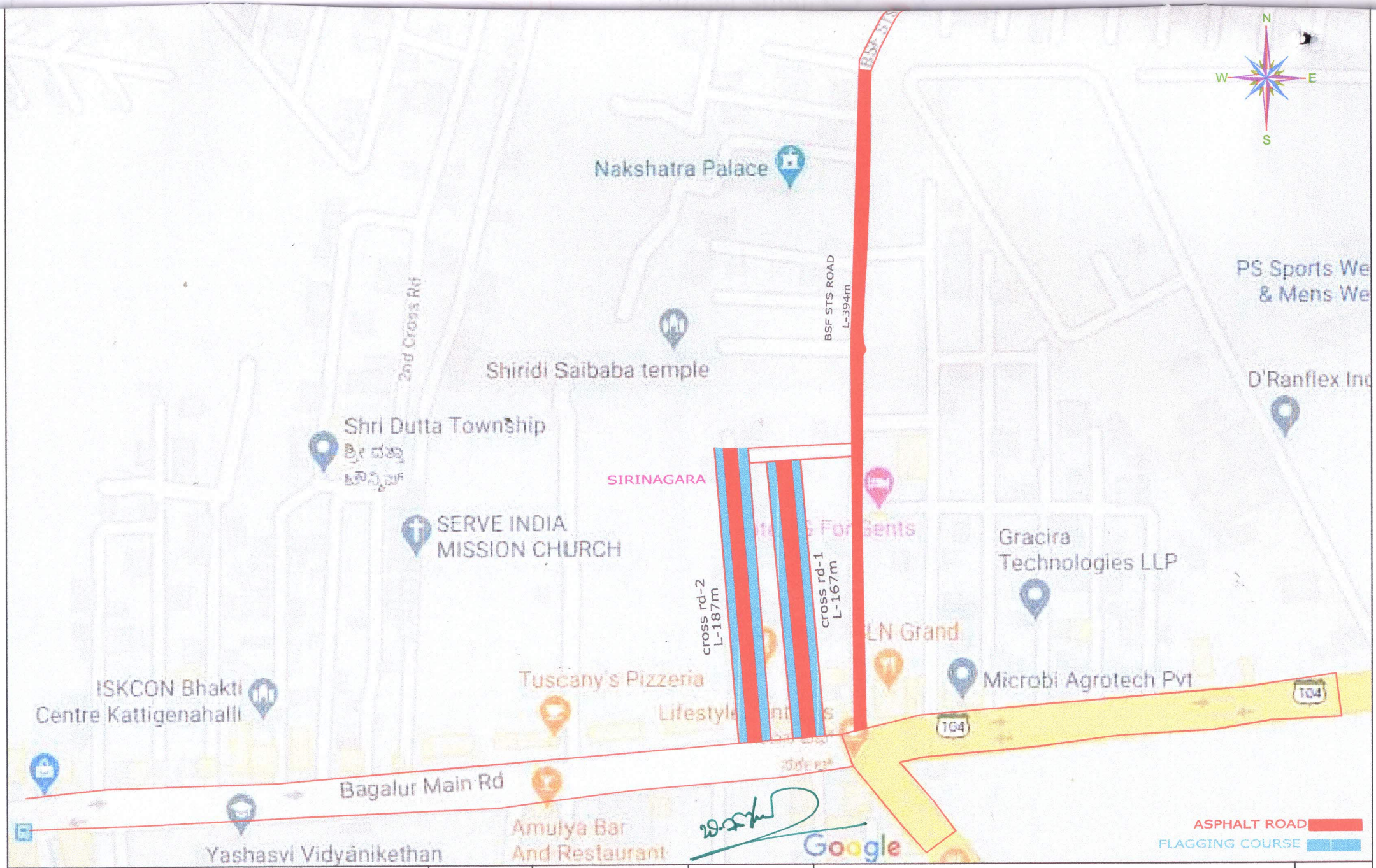
Executive Engineer,
Byatarayanapura Division



BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- Silicon Consulting Engineers #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com				Improvements to Roads and Drains at Srinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward no.05



BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- Silicon Consulting Engineers #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com				Improvements to Roads and Drains at Srinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward no.05	



BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- **Silicon Consulting Engineers** #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com				Improvements to Roads and Drains at Srinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward no.05	

CLIENT: BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- Silicon Consulting Engineers #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com	Assistant Engineer	Assistant Executive Engineer	Executive Engineer	Improvements to Roads and Drains at Srinagara, Niranthara layout, Sri Krishna Garden and Surrounding areas in Ward no.05	File No. Dwg. No. Rev. No.

BRUHAT BANGALORE MAHANAGARA PALIKE

Name of Work: Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05

DETAILED ESTIMATES

Estimated Cost
Rs. 200.00 Lakh

Office of the
Executive Engineer
BYATARAYANAPURA DIVISION
Bruhat Bangalore Mahanagara Palike
Bangalore

Bruhat Bangalore Mahanagara Palike
Executive Engineer Byatarayanapura Division

Name of Work: Improvements to Roads and Drains at Cross roads of Kattigenahalli and Surrounding areas in Ward No.05

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Removing & Refixing stone slabs of drains and pointing in C.M (1:3) (Page No 27., I.No.5.33 of KPWD S.R 2018-19).								
Basic rate	105.00							
6% AW	6.30							
Sub Total	111.30							
Bottom Drain Slabs								
Kattigenahalli								
Near 2nd cross								
Cross Road -1	1	126.00	1.50		189.00			
Cross Road -2	2	126.00	1.50		378.00			
					567.00			
Deduct 30% damaged/missing					170.10			
					396.90			
consider 30%					**119.07**	**Sqm**	**111.30**	**13,252.49**
KSRRB 300 - Excavation for road, drains and similar works KSRRB 300-1. **Earthwork excavation by manual means** in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications. MORTH / Chapter 3 (P.No-143, I.No-19.1)								
Basic rate	130.00							
Area weightage 6%	7.80							
Sub total	137.80							
Loading and unloading with Lead 5 km	**69.80**							
Total	**207.60**							
Desilting								
Kattigenahalli								
Near 2nd cross								
Cross Road -1	1	126.00	0.40	0.30	15.12			
Cross Road -2	2	126.00	0.40	0.30	30.24			
Culvert	5	6.00	1.80	0.90	48.60			
					93.96	**Cum**	**207.60**	**19,506.10**
Providing granite slabs of selected quality roughly dressed having a size of 7.5 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete. I.No.5.31.1, Page no 27								
Basic rate	700.00							
Area weightage 6%	42.00							
Total	**742.00**							

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	from item no.01					170.10			
						170.10	**Sqm**	**742.00**	**126214.20**
	KSRRB M2100-10. Providing and laying **Plain cement concrete of mix 1:3:6** with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @ 0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. (P.No-222,I No-27.18)								
	Basic rate	5115.00							
	6% AW	306.90							
	Sub Total	**5421.90**							
	Culvert	5	6.00	1.80	0.15	8.10			
						8.10	**Cum**	**5421.90**	**43,917.39**
	KSRB 5.2-3 : **Providing and constructing granite / trap / basalt size stone masonry** in foundation with cement mortar, stone hammered dressed in courses not less than 20 cms high, bond stones at 2m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13, cement mortar 1:6 KBS 5.1.13 (P.No-25,I No-5.6)								
	Basic rate	4596.00							
	6% AW	275.76							
	Sub Total	**4871.76**							
	Agrahara layout								
	Culvert Wall	10	6.00	0.45	0.80	21.60			
						21.60	**Cum**	**4871.76**	**105230.02**
	KSRB 4-1.6 ; Providing and laying in position **plain cement concrete of Mix 1:2:4** with OPC @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregtes @ 0.53cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No-13,I No-4.6)								
	Basic rate	5422.00							
	6% AW	325.32							
	Sub Total	5747.32							
	For Flagging Course P.C.C								
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	2	126.00	0.20	0.15	7.56			
	Cross Road -2	4	126.00	0.20	0.15	15.12			
	For Flagging Course Coping								
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	2	126.00	0.15	0.10	3.78			
	Cross Road -2	4	126.00	0.15	0.10	7.56			
	Culvert Coping	10	6.00	0.45	0.10	2.70			
	Culvert Vent	5	6.00	0.60	0.15	2.70			
						39.42	**Cum**	**5747.32**	**226559.35**

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	KSRB 5-14 : Providing and constructing load bearing wall with **solid concrete blocks of size 400x150x200 mm** having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 4.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications. KBS No.5.4 I.No.5.26.2, Page no 27								
	Basic rate	924.00							
	Area weightage 6%	55.44							
	Total	**979.44**							
	Flagging Course								
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	2	126.00		0.20	50.40			
	Cross Road -2	4	126.00		0.20	100.80			
						151.20	**Sqm**	**979.44**	**148091.33**
	Providing and fixing **RCC Precast cover slab of 100mm thick** for drain in cement concrete M25 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data rate	2337.00							
	For Drain								
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	1	126.00	0.90		113.40			
	Cross Road -2	2	126.00	0.90		226.80			
						340.20	**Sqm**	**2337.00**	**795047.40**
	Providing and Fixing **pre cast covering Slab 250mm thick** made out of M25 and jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge. (Data Rate)								
	Data rate	5418.00							
	Culvert	5	6.00	1.50		45.00			
						45.00	**Sqm**	**5418.00**	**243810.00**
	KSRRB M300-14. **Excavation for roadwork** in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location to a lead of 1km and complete as per specifications.(I No-19.14,P No-143)								
	Basic rate	41.00							
	Area Weightage 6%	2.46							
	Sub total	43.46							
	with Lead 5 km	**12.80**							
	Total	**56.26**							

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Palanahalli								
	25th cross	1	580.00	7.00	0.350	1421.00			
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	1	126.00	4.10	0.350	180.81			
	Cross Road -2	1	126.00	4.10	0.350	180.81			
	Bad reaches/ Cut portion								
	Kattigenahalli								
	Kattigenahalli to Palanahalli	1	1180.00	3.00	0.200	708.00			
						2490.62	**Cum**	**56.26**	**140122.28**
1	Construction of **granular sub-base Grading-V** as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications Clause 401 of MORTH V Revision.(I No-20.5,P No-153)								
	Basic rate	1882.00							
	Area Weightage 6%	112.92							
	Total	**1994.92**							
	Palanahalli								
	25th cross	1	580.00	7.00	0.150	609.00			
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	1	126.00	4.10	0.150	77.49			
	Cross Road -2	1	126.00	4.10	0.150	77.49			
	Bad reaches/ Cut portion								
	Kattigenahalli								
	Kattigenahalli to Palanahalli	1	1180.00	3.00	0.200	708.00			
						1471.98	**Cum**	**1994.92**	**2936482.34**
2	KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to **wet mix macadam** specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications(P.No-155,I No-20.18)								
	Basic rate	1888.00							
	Area Weightage 6%	113.28							
	Total	**2001.28**							
	Palanahalli								
	25th cross	1	580.00	7.00	0.225	913.50			
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	1	126.00	4.10	0.225	116.24			
	Cross Road -2	1	126.00	4.10	0.225	116.24			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Bad reaches/ Cut portion								
	Kattigenahalli								
	Kattigenahalli to Palanahalli	1	1180.00	3.00	0.225	796.50			
						1942.47	**Cum**	**2001.28**	**3887426.36**
	KSRRB M500-6. Providing and **applying primer coat** with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications Clause 502 of MORTH V revision(P.No-158,I No-21.6)								
	Basic rate	27.00							
	Area Weightage 6%	1.62							
	Total	**28.62**							
	Palanahalli								
	25th cross	1	580.00	7.00		4060.00			
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	1	126.00	4.10		516.60			
	Cross Road -2	1	126.00	4.10		516.60			
	Bad reaches/ Cut portion								
	Kattigenahalli								
	Kattigenahalli to Palanahalli	1	1180.00	3.00		3540.00			
	Profile Correction	1	1180.00	2.00		2360.00			
						10993.20	**Sqm**	**28.62**	**314625.38**
4	KSRRB 500-2. **Cleaning the existing black topped surface** with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labour, HOM complete as per specifications. (P.No-158,I No-21.12,KPWD SR 2018-19)								
	Basic rate	5.00							
	Area Weightage 6%	0.30							
	Total	**5.30**							
	Palanahalli								
	25th cross	1	580.00	7.00		4060.00			
	Kattigenahalli								
	Near 2nd cross								
	Cross Road -1	1	126.00	4.10		516.60			
	Cross Road -2	1	126.00	4.10		516.60			
	Bad reaches/ Cut portion								
	Kattigenahalli								
	Kattigenahalli to Palanahalli	1	1180.00	7.50		8850.00			
	Deduct primme coat area					-10993.20			
						2950.00	**Sqm**	**5.30**	**15,635.00**
15	KSRRB 500-7. Providing and applying **tack coat** using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM complete as per specifications (P.No-161,I No-21.7)								

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Basic rate	12.00							
Area Weightage 6%	0.72							
Total	**12.72**							
Palanahalli								
25th cross	1	580.00	7.00		4060.00			
Kattigenahalli								
Near 2nd cross								
Cross Road -1	1	126.00	4.10		516.60			
Cross Road -2	1	126.00	4.10		516.60			
Kattigenahalli to Palanahalli	1	1180.00	7.50		8850.00			
					13943.20	**Sqm**	**12.72**	**177357.50**

KSRRB M500-17. Providing and laying **dense graded bituminous macadam** using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications Clause 505 of MORTH V revisionusing 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (P.No-160,I No-21.17.6)

Basic rate	6224.00							
Area Weightage 6%	373.44							
Total	**6597.44**							
Palanahalli								
25th cross	1	580.00	7.00	0.05	203.00			
Kattigenahalli								
Near 2nd cross								
Cross Road -1	1	126.00	4.10	0.05	25.83			
Cross Road -2	1	126.00	4.10	0.05	25.83			
Bad reaches/ Cut portion								
Kattigenahalli								
Kattigenahalli to Palanahalli	1	1180.00	3.00	0.05	177.00			
Profile Correction	1	1180.00	2.00	0.05	118.00			
					549.66	**Sqm**	**6597.44**	**3626348.87**

Providing and laying **bituminous concrete 40mm thick** with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4 % of modified bituminus binder consisting of 4.97% of VG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic)(P.No-171,I No-21.78.12)

Basic rate	7315.00							
Area Weightage 6%	438.90							
Total	**7753.90**							

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Palanahalli								
25th cross	1	580.00	7.00	0.04	162.40			
Kattigenahalli								
Near 2nd cross								
Cross Road -1	1	126.00	4.10	0.04	20.66			
Cross Road -2	1	126.00	4.10	0.04	20.66			
Kattigenahalli to Palanahalli	1	1180.00	7.50	0.04	354.00			
					557.73	**Cum**	**7753.90**	**4324567.14**
KSRRB M800-13.**Road Marking** with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803(P.No-182,I No-24.15)								
Basic rate	429.00							
Area Weightage 6%	25.74							
Total	**454.74**							
Palanahalli								
25th cross	2.5	580.00	0.10		145.00			
Kattigenahalli								
Near 2nd cross								
Cross Road -1	0.5	126.00	0.10		6.30			
Cross Road -2	0.5	126.00	0.10		6.30			
Kattigenahalli to Palanahalli	2.5	1180.00	0.10		295.00			
					452.60	**Sqm**	**454.74**	**205815.32**
KSRRB M800-35. **Supply and Installtion of Moulded Shank Raised Pavement Markers** made of polycarbonate and ABS(Acrylonitrile Butadiene Styrene) moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to Specifications of Category A of MORTH Circular No RW/ NH/33023/10-97 – DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 100 mm and 102 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the base shall be 35 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 mm and height not less than 30 mm) from the body is to be a minimum value of 500 Kg. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.(P.No-187, I No-24.41)								
Basic rate	337.00							
Area Weightage 6%	20.22							
Total	**357.22**							
Palanahalli								
25th cross	3	58.00			174.00			
Kattigenahalli								
Kattigenahalli to Palanahalli	3	118.00			354.00			
					528.00	**Nos**	**357.22**	**188612.16**

Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
Supply and fixing of Retro Reflective Single Arrow Road Name Signboard of size 1600mm x 900mm made out of retro reflective sheeting conforming to Type XI standards of ASTM D 4956 - 09 & as per IRC 67-2012 for full back ground of blue colour & white letters and fixed over 4 mm thick Aluminium Composite Material sheet having minimum 0.5 mm thick Aluminium skin on both sides with back side painted grey colour and fixed over back support frame SS angle of 15mm x 20mmx 1.2mm, supported by 38mm OD stainless steel pipe all round in 304 grade and 2 nos of vertical posts of 50 mm OD stainless steel pipe of 202 grade firmly fixed to the ground by means of properly designed foundation of size 450mm x 450mm x 600mm in 1:1.5:3 ratio cement concrete. The background shall be blue in color with letters and border in white, the item includes earthwork excavation, cost of all materials, loading, unloading, lead, lift, transportation etc., complete. as per direction of engineer incharge of work clause 6.9 of IRC 67-2012 for Type XI retro reflective sheeting from the sheeting manufacturer & a certified copy of test reports from an independent test laboratory conforming to clause 6.7 of IRC 67-2012 including outdoor weather exposure report for the retro reflective sheeting offered shall be submitted by the contractor for technical qualification in the tender.(P.No-190, I No-24.59 of PWD BCSR 2018-19)								
Basic rate	13297.00							
Area Weightage 6%	797.82							
Total	**14094.82**							
Palanahalli								
25th cross	3	1.60	0.90		**4.32**			
Kattigenahalli to Palanahalli	2	1.60	0.90		**2.88**			
					7.20	**Sqm**	**14094.82**	**101482.70**
							Total Construction Cost	**17640103.35**
							12% GST	**2116812.40**
							DPR & PMC Charges	**243000.00**
							Sub Total	**19999915.75**
							Miscellaneous & Rounding off	**84.25**
							GRAND TOTAL	**20000000.00**

Certificate

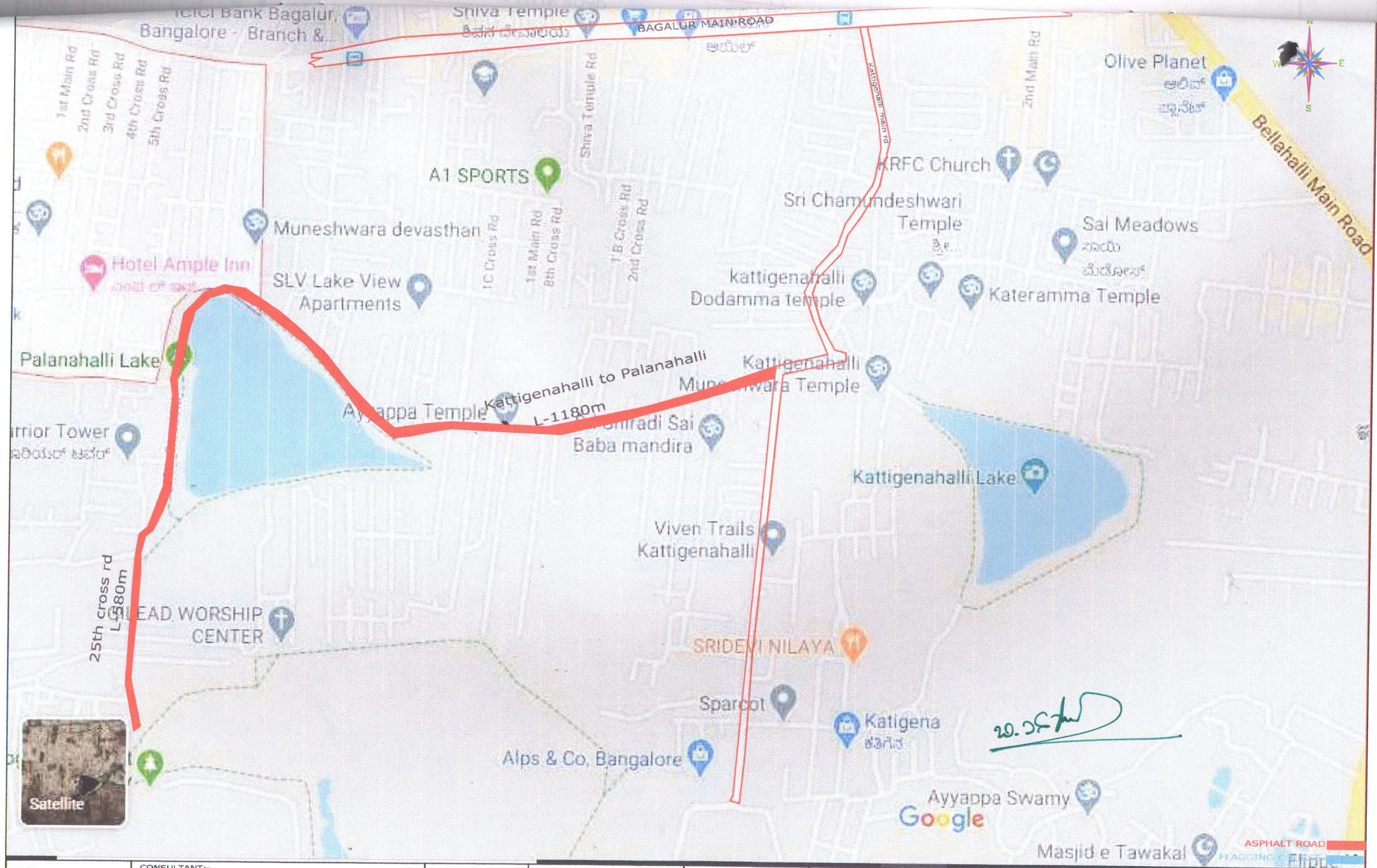
1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019, Data Rates and issue rates Dated 03-01-2020

Assistant Engineer,
Ward 05

Asst. Exec. Engineer,
Dasarahalli Sub Division

Executive Engineer,
Byatarayanapura Division

BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- Silicon Consulting Engineers #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com				Improvements to Roads and Drains at Cross roads of Kattigehalli and Surrounding areas in Ward no.05	



CLIENT BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- **Silicon Consulting Engineers** #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com	Assistant Engineer	Assistant Executive Engineer	Executive Engineer	Improvements to Roads and Drains at Cross roads of Kattigehalli and Surrounding areas in Ward no.05 Date: Key plan